Alternative EX-1

Group
Water Supply

Title
Large Isolated Transfer Facility

This alternative emphasizes reducing entrainment of fish and fish food by relocating both M&I and agricultural export diversions to the Sacramento River near the northerly edge of the Delta. By reducing the flow of water through the Delta to the existing export pumps, residence time is increased, resulting in substantial improvements in aquatic habitat productivity in the Delta. The new diversion location also results in substantial improvements in export water quality, and reduces the need for "carriage water" releases, making additional water available for environmental uses and/or water supply. This alternative decreases the pollutant load entering the Delta from the San Joaquin River through implementation of source control measures, offsetting the decrease of Sacramento River inflow to the Delta resulting from the diversion relocation. Vulnerability of Delta functions to catastrophic failure is reduced by levee improvements associated with habitat improvement measures in the Delta.

Major physical features include a new conveyance facility to transport water from the new diversion point, around the Delta to the existing export conveyance facilities. The capacity of the new facility matches the capacity of the existing export conveyance facilities. Water supply conditions in the Delta are improved by construction of flow control structures in the South Delta which provide adequate water levels to support continued in-Delta diversions. Vulnerability of Delta functions to catastrophic failure is reduced by levee improvements associated with habitat improvements and at islands throughout the Delta.

Key Actions

Install Barriers—Install barriers to maintain adequate water levels for in-Delta diversions .

Construct Large Isolated Transfer Facility—Construct a new conveyance facility to transport water from the new diversion point around the Delta to the existing export conveyance facilities. The capacity of this facility matches the physical capacity of the existing CVP and SWP export facilities.

Habitat Restoration—Restore riverine, riparian, wetland, and adjacent terrestrial habitat, and expand floodway habitat, channels, and meander belts in the Bay-Delta and upstream in rivers and tributaries to restore fish spawning, rearing, and feeding habitats and improve fish survival. islands with relatively high interior surface elevations). The amount of in-Delta habitat restoration included is smaller relative to alternatives which maintain in-Delta M&I and/or agricultural export diversions.

Relocate Diversions—Relocate export diversions to a point or points on the Sacramento River near the northerly edge of the Delta (e.g. Hood). Provide best available technology fish screens. Real-time monitoring is used to avoid entraining large concentrations of striped bass eggs and larvae, otherwise, pumping can occur continuously. The single point of diversion, on the river, reduces the number of fish exposed to the diversion, the length of time fish are exposed to the

diversion, and eliminates the rerouting of fish associated with the circulation associated with current export diversion locations in the south Delta. The new diversion point also provides access to higher quality water for export.

Control Predators—Harvest predators at Delta and upstream diversions, holding areas, and other environmentally sensitive areas in the Sacramento and San Joaquin river basins.

Reclamation—Reclaim agricultural, municipal and industrial wastewater for a variety of uses, improving water quality by reducing wastewater discharges.

Manage Drainage/Discharges—Impose in-Delta and upstream cropping and irrigation practices to increase the effectiveness of chemical applications to reduce nonpoint source leaching volumes and concentrations. Improve drainage timing for dilution during high flow periods to reduce instream impacts. Set pollutant load limits in the San Joaquin and Sacramento Rivers. Prevent toxic discharges from industrial plants using stronger enforcement, especially during environmentally sensitive periods. Implement selective land retirement in the San Joaquin Valley aimed at reducing pollutant loading of the San Joaquin River.

Improve and Protect Riparian Habitats—Restore riparian habitat at greater than core levels to mitigate losses associated with development of the isolated conveyance facility.

Protect, Enhance and Expand Existing Wetlands—Improve and expand existing wetlands to mitigate losses associated with development of the isolated conveyance facility.

Floodway Habitat Improvement—Create new habitat by allowing rivers to meander within existing levees upstream of the Delta.

Levee Upgrades—Provide landside buffer zones of at least 75 yards to minimize levee subsidence and improve levee maintenance and stabilization to at least hazard mitigation plan standards (HMP; a level of protection less than the 100-year flood) for islands providing valuable existing habitat, such as on Bradford Island. Improve levee maintenance and stabilization to at least National Flood Insurance Program standards (NFIP; 100-year flood protection) and to maximum credible earthquake standards (MCE) for all islands, such as Tyler and Mandeville, containing existing infrastructure and/or land use that provides economic benefit to the region. Improve levee maintenance and stabilization to at least Bulletin 192-82 or PL-99 standards (generally considerably more than 100-year flood protection) and to MCE standards for critical western Delta islands, such as Brannan-Andrus, Bethel, and Sherman, to reduce risk to critical infrastructure (e.g. Mokelumne Aqueduct, PG&E gas lines, Highway 160) and to reduce risk to export water quality from salinity intrusion due to levee failure. A levee management plan would provide necessary funding for ongoing maintenance and emergency funding and direction to reclaim Delta islands in the event of inundation in order to continue protection of Delta functions as an integrated resource system.

Preliminary Assessment

Ecosystem Quality—This alternative substantially improves ecosystem quality primarily through reduction of diversion effects on fish. Relocating the export diversions also increases in-Delta residence time, resulting in substantially improved aquatic habitat productivity. Habitat restoration is provided to mitigate for losses resulting from the construction of the isolated facility. Additional in-Delta habitat restoration is included at a relatively low level to supplement the ecosystem quality benefits provided by the diversion relocation.

Water Supply—By relocating and consolidating export diversions, supply reliability is improved by effectively reducing pumping restrictions associated with fish entrainment.

Water Quality—This alternative improves export water quality through relocating export diversions to the Sacramento River, a significantly higher quality source than the South Delta. Water quality within the Delta is improved through reduction of pollutant loading from the San Joaquin River, and through reclamation and management of wastewater.

System Vulnerability—Constructing an isolated conveyance facility essentially eliminates the risk that water supply operations will be interrupted by a failure of in-Delta facilities. Creation of habitat through construction of setback levees and habitat corridors simultaneously provides better levees and protection for adjacent land uses. Core actions improve the reliability of in-Delta facilities through levee management and levee reconstruction.